

PMS46**TREATMENTS FOR UPPER-LIMB POST-STROKE SPASTICITY: A CRITICAL EVALUATION****Olvey EL¹, Grizzle AJ¹, Armstrong EP¹, Shah MV²**¹University of Arizona, Tucson, AZ, USA, ²Allergan, Inc, Irvine, CA, USA

OBJECTIVE: The purpose of this study was to conduct a critical analysis of the current treatments for upper-limb post-stroke spasticity. **METHODS:** Using search terms including spasticity, stroke, hemiplegia, phenol, baclofen, tizanidine, dantrolene, benzodiazepine, and botulinum toxin, the databases MEDLINE, EMBASE, and Cochrane Controlled Trials Register were used to identify studies in English published from 2004–December 2007. Citations of the extracted articles were reviewed to identify any further articles not captured through the database search. Articles were excluded for the following reasons: lower extremity treatments, pediatric studies, commentaries, duplicate studies, and those that focused on the use of treatments for spasticity secondary to a non-stroke etiology (e.g. multiple sclerosis, cerebral palsy, etc.). **RESULTS:** A total of 34 studies were reviewed and assessed using the Oxford Levels of Evidence quality scale. Fourteen clinical trials, two pooled analyses, two meta-analyses, one cost-effectiveness study, two retrospective cohort studies, three case reports/case-series, five systematic reviews, and five non-systematic reviews were identified. Thirty-one studies focused on botulinum toxin. All clinical trials compared botulinum toxin to either placebo or no treatment. Eleven studies followed patients through one treatment cycle (generally, 12–16 weeks) to determine the duration of treatment efficacy. Three clinical trials completed multiple treatment cycles which lasted 24–42 weeks. Most clinical trials measured spasticity in multiple locations of the arm, such as the fingers, wrist and shoulder. All studies used multiple outcome measures, including instruments that assessed spasticity, pain, quality of life, disability, and functional status. All clinical trials showed a significant difference in spasticity when botulinum toxin was used, as compared either to baseline measurements or placebo. **CONCLUSION:** This analysis showed that botulinum toxin effectively reduces upper-limb spasticity in post-stroke patients. Despite utilization of broad search criteria, no current trials demonstrating the efficacy of other treatments were identified.

**RESPIRATORY-RELATED DISORDERS—
Clinical Outcomes Studies****PRSI****COMPARISON OF THE EFFECTIVENESS OF ONE VERSUS TWO ANTIBIOTICS IN THE TREATMENT OF COMMUNITY ACQUIRED PNEUMONIA (CAP). AN ANALYSIS USING PROPENSITY SCORE.****Espinoza MA¹, Ruiz M¹, Zunino E², Martinez MA¹, Luchsinger V¹, Silva C¹, Avendaño L¹**¹Universidad de Chile, Santiago, Región Metropolitana, Chile, ²Hospital Dr. Lucio Córdova, Santiago, Región Metropolitana, Chile

OBJECTIVE: To compare the effectiveness of one versus two antibiotics in the treatment of community acquired pneumonia (CAP), related to mortality, inpatient stay and clinical outcomes. **METHODS:** Data from an observational study with CAP was collected during 2005–2007 in Santiago-Chile (sample = 321). One group was treated with one antibiotic (n = 115) and the other with two antibiotics (n = 202). Both were followed during their hospital stay, and clinical outcomes were collected. For each individual, the propensity score was estimated, which is the a priori probability of being assigned to receive treatment with two antibiotics. This was performed with the use of logistic

regression, including significant co-variables that occurred before the actual treatment initiation. Analysis of confounder variables was also developed, in order to compare with Propensity Score approach. **RESULTS:** Univariate analysis showed significant positive association between two antibiotics and the progression to septic shock (RR = 4.15), acute renal failure (RR = 2.04), acute respiratory failure (RR = 3.02) and radiologic impairment (RR = 5.10). Combined treatment was also associated with lower probability to be discharged from hospital (HR = 0.56). However, when the analysis was adjusted by Propensity Score, these associations disappeared. No inversion of the association was observed. Additionally, when treatment with two antibiotics was adjusted by severity of the CAP (Fine Score), similar results were observed with the exception of acute respiratory failure and hospital stay. **CONCLUSION:** In adult patients with CAP, treatment with two antibiotics versus one was not associated with lower mortality, decreased inpatient stay or improved clinical evolution. Analysis using Propensity Score was a useful method, because it was able to explain all those associations observed in the univariate analysis. (Supported by FONDECYT 1050734)

PRS2**A MIXED TREATMENT COMPARISON META-ANALYSIS OF RANDOMIZED CONTROLLED TRIALS OF PHARMACOLOGIC TREATMENTS FOR CHRONIC OBSTRUCTIVE PULMONARY DISEASE****Baker WL, Baker EL, Coleman CI**

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OBJECTIVE: The comparative efficacy of commonly prescribed drugs for the treatment of chronic obstructive pulmonary disease (COPD) is under debate. Therefore, we conducted a mixed-treatment comparison meta-analysis (MTC) to assess the efficacy and tolerability of these agents. **METHODS:** A systematic literature search through October 2007 was performed to identify randomized controlled trials of long-acting beta-agonist (LABA), tiotropium, inhaled corticosteroid (ICS), and/or combination ICS/LABA therapy in patients with COPD. MTC methods were used to combine direct, within-trial and between-drug comparisons with indirect evidence from the other trials while maintaining randomization. Evaluated endpoints included the incidence of having ≥ 1 exacerbation, mortality and study withdrawals. Statistics are reported as odds ratios (ORs) with 95% credible intervals (CrIs). **RESULTS:** Forty-three eligible trials including 31,020 COPD patients were identified. MTC demonstrated LABA (OR 0.84, 95%CrI, 0.76–0.92), tiotropium (OR 0.69, 95%CrI, 0.61–0.76), ICS (OR 0.85, 95%CrI, 0.75–0.97), and combination ICS/LABA (OR 0.76, 95%CrI, 0.67–0.85) therapies each decreased the odds of having an exacerbation compared to placebo. Moreover, tiotropium reduced the odds of having an exacerbation compared to both LABA (OR 0.82, 95%CrI, 0.72–0.93) or ICS (OR 0.81, 95%CrI, 0.69–0.94) therapies. Each of the 4 drug classes were associated with significantly fewer study withdrawals compared to placebo with odds reductions ranging from 26–41%. Additionally, both tiotropium and combination ICS/LABA therapy significantly decreased study withdrawals as compared to either LABA or ICS therapy alone. The only agent to demonstrate a mortality benefit was combination LABA/ICS therapy, which showed superiority to placebo (OR 0.71, 95%CrI, 0.49–0.96) and LABA therapy (OR 0.75, 95%CrI, 0.52–1.00). **CONCLUSION:** Combination ICS/LABA therapy appeared to have the greatest effect on outcomes, including exacerbations and mortality, while resulting in fewer study withdrawals. Upon comparing solo bronchodilator therapies, tiotropium was associated with a lesser odds of developing an exacerbation or study withdrawal compared to LABA therapy.